DOCUMENT RESUME

ED 205 163 IR 009 233

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TITLE	The Persistence of Effects. A Supplement to "An Evaluation of FREESTYLE: A Television Series to Reduce Sex Role Stereotypes."
INSTITUTION	Michigan Univ., Ann Arbor. Inst. for Social Research.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	28 Feb 80
CONTRACT	400-76-0096
NOTE	30p.; For a related document, see ED 170 543 and ED 191 169. Best copy available.
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Educational Television; Elementary Education; *Persistence; Questionnaires; *Sex Bias; Sex Role; *Sex Stereotypes; *Student Attitudes; Television Research

ABSTRACT

This report describes a follow-up study of the persistence of the effects of the FREESTYLE experiment, which had indicated that this television series was capable of bringing about large changes in the sex role orientation of 9-to-12-year-olds. Designed to determine whether the effects associated with a 4 month media intervention could be found to persist after a 9 month period during which there was no continued intervention, this study used questionnaires identical to those used for the original pre-test and post-test in the FREESTYLE experiment. The questionnaires were completed by 459 students, or 78 percent of the original panel. This report includes a description of the strategy used for measuring persistence, as well as content areas where FREESTYLE had had large effects. These include girls in athletics, mechanics, and leadership roles; boys in helping and leadership roles; and adult job roles. Supporting charts and graphs are provided, and a table of the mean scores across time for 14 FREESTYLE indexes is appended. (CHC)

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ED205163

The Persistence of Effects

A Supplement to "An Evaluation of Freestyle: A Television Series to Reduce Sex Role Stereotypes"

BEST COPY AVAILABLE

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February 28, 1980

IR009233

This research was funded by
The National Institute of Education
under Contract No. NIE-400-76-0096.

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Four months after the FREESTYLE experiment was completed, the first analyses of the data became available. They indicated that FREESTYLE was indeed capable of bringing about large changes in the sex-role orientation of 9-12 year olds. Was this based on the transitory feelings of children who had been temporarily "hyped" by an attractive media intervention, or would these changes disappear after children had a chance to check some of their new ideas against the realities of the broader social fabric? The original research proposal in 1976 had suggested that the research design include a follow-up study if the immediate post-viewing results warranted it; but such a prospect was remote enough at that point in time that funds were not sought for such an effort. With positive effects in hand three years later, The National Institute of Education was approached to fund a follow-up study in one site, preferably Long Beach, California. This site had the best demographic distribution, and the effects were slightly larger in this city than any other. Unfortunately, there were not enough funds available to conduct a study of 1000 children in a site so remote from the home offices of the research team. However, the available funds were sufficient to cover a third data collection from perhaps 600 children but only if travel and other costs could be eliminated. This fact dictated that if a follow-up study were to be conducted it would have to be in Ann Arbor, the home city of the research staff. This was not an ideal site for two reasons. Although there is a broad demographic distribution both in the city and in the student sample, there are no Hispanics and there is perhaps some restriction on the range of social and ethnic diversity. Second, the Ann Arbor children had been asked to complete only part of the pre- and post-questionnaire;

thus some of the measures would not be available for the students in this site. Nonetheless, a persistence study in Ann Arbor was preferable to none at all.

The major goal of the persistence study, simply put, was to see if the effects associated with a four-month intervention could be found to persist after a nine-month period during which there was no continued intervention. Clearly, between February, 1979 (the end of the FREESTYLE experiment) and November, 1979 (the third data collection point) many things could have happened which would have extended the FREESTYLE intervention. Children would have had the same teacher from February, until June and during this time the teacher could have done a number of things to extend the original intervention. But summer vacation would have intervened and in the fall children would have been passed on to other teachers as the new school year began. Of course the students who were sixth graders during the experiment had moved to totally new buildings, not just to new teachers. In a few cases, some of the teachers who were in the original experiment were the new teachers for the previous fourth and fifth grade students, but this was true for less than 20 percent of the students. By and large it could be said with considerable certainty that the period between the original post-test in February, 1979, and the "post-post" test in November, 1979 was a time when FREESTYLE was not an integral part of the educational environment of these children.

The next few sections of this chapter describe the procedures used to collect the follow-up data and describe the characteristics of the resulting sample. This description is brief but detailed at some points. It is important because it provides the reader with material to

judge the generalizability of the findings presented later.

Data Collection Procedures

During a three-week period in the fall of 1979, Time 3 (follow up) data were collected from students in nine Ann Arbor elementary schools and four junior high schools. The questionnaire used was identical to the one used for the original pre-test and post-test. The data collections followed an organizational meeting in each of the schools which was attended by a member of the FREESTYLE staff, the building principal, and several classroom teachers. Dates were established for the administration of the follow-up data collections, and procedures were designed in such a way as to minimize any disruption of the teachers' ongoing instructional activities. Several elementary teachers who had earlier experience with FREESTYLE "pooled" their students, with one teacher administering the questionnaire to the students of interest to the research staff while the other teacher assumed responsibility for the remaining students. In yet other elementary classrooms, and in all junior high schools, the questionnaire was administered by members of the FREESTYLE staff, assisted by school personnel. Follow up administrations for students who were absent on the day the questionnaire was administered in their class or school were not utilized, due to budgetary constraints.

Panel attrition

These procedures worked reasonably well, at least when examined from the perspective of making contact with the majority of the students who had participated in the experiment during the preceding school year. Questionnaires were completed by 459 students; this number represents 78

percent of the 589 "target" students who had completed both the pre and post questionnaires.[1] Contacts were more successful with students who, in the preceding year, had been in the fourth or fifth grades than with students in the sixth grade. This is due largely to the problems encountered when a student moves from one building to another. But it was also more difficult to secure individual students at the junior high level, especially when the school's administrators and teachers had not been involved in the previous year's FREESTYLE experiment. While the response rate was high, the question should be asked: is there any systematic bias among those who chose to continue in the study?

The first avenue to explore is the demographic distribution in the retained and original samples. Table 1 displays the absolute and relative frequencies of the sample of available respondents in three ways; in the first row are the distributions of the original group of 687 respondents by sex, grade, treatment, and race. In the second row are similar data for the 589 respondents who provided complete data for both pre (T1) and post (T2) administrations of the questionnaire. In the third row are the data describing the 437 respondents who completed questionnaires at all three points in time (T1-T2-T3). In general, there are no large shifts evident in the demographic characteristics of these three samples. The most noteworthy exception is the grade level composition of the T1-T2-T3 sample. There are proportionately more fourth and fifth graders because of the higher losses of sixth graders who were now in junior high schools.

To further explore the issue of panel mortality, the 550 T1

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[1]Twenty two of these cases had to be dropped from subsequent analyses due to problems with invalid or mismatched identification numbers.

Table 1

Demographic Characteristics of the Ann Arbor Sample Across Time

		Sex		Grade[1]			Treatment		Race		
Sample	Total	Male	Female	Four	Five	Six	Exper.	Control	Black	White	Other[2]
T1	687	368	319	263	118	306	550	137	181	456	50
		53.6	46.4	38.3	17.2	44.5	80.1	19.9	26.9	67.9	5.2
T1-T2	589	306	283	229	96	264	477	112	148	412	29
		52.0	48.0	38.9	16.3	44.8	81.0	19.0	25.2	70.2	4.6
T1-T2-T3	437	224	213	194	75	168	345	92	106	308	23
		51.3	48.7	44.4	17.2	38.4	78.9	21.1	24.4	70.8	4.8

[1]Grade level at T1

[2]"Other" is a combination of other races plus a few missing data cases

experimental students and the 137 T1 control students were divided into two subgroups; those who "persisted" in the study at all three points in time and all others who did not. (As can be seen in the previous table, 345 or 63 percent of the experimentals persisted, while 92 or 67 percent of the controls did so.) The pre-test data for persisters and others were then compared to see if they differed. These comparisons were performed for a set of thirteen FREESTYLE belief and attitude indexes. None of the comparisons even approached the .05 level of statistical significance for the experimentals,[2] suggesting that, for experimentals, a student's initial score is not an important predictor of whether or not (s)he will persist in the study. However, this was not the case for control students; four of the thirteen mean differences attained or exceeded the .05 level of significance, and six of the thirteen differences were significant at or beyond the .10 level. Bayesian posterior probabilities were calculated to examine the hypothesis that, for control students, persistence is positively related to initial scores. In each of the six instances just described, and in two additional instances as well, this hypothesis was confirmed at or beyond the .90 probability level. In short, the control students who

ided questionnaire data at all three points in time are a biased subset of the initial 137 control students with which we began the study.

Thus, panel mortality issues are seen to be potential sources of considerable bias within the control students, but not a major problem for the experimentals. For the purposes of the present analyses this

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[2]As a matter of fact, none of the mean differences was significant at the .10 level either, and only one of the thirteen differences was significant even at the .20 level.

potential problem was resolved by adopting an analytic strategy based exclusively upon the experimental students. In essence, this means that analysis of the persistence of FREESTYLE effects will be done without the benefit of experimental/control comparisons.

Table 2

Demographic Composition of Experimental Persisters from High Implementing Classrooms Compared With Original T1 Sample

		Sex		Grade[1]			Race		
Sample	Total	Male	Female	Four	Five	Six	Black	White	Other[2]
T1 all students	687	368	319	263	118	306	181	456	50
	100%	53.6	46.4	38.3	17.2	44.5	26.9	67.9	5.2
T1-T2-T3 Experimentals only	280	150	130	130	60	90	72	190	18
	100%	53.6	46.4	46.4	21.4	32.1	25.7	67.9	6.4

[1]Grade level at T1

[2]"Other" is a combination of other races plus a few missing data cases.

Before describing this analytic strategy and presenting the results, there is one additional issue which should be mentioned. What should be done with the experimental students from classrooms in which the FREESTYLE experiment was not completely implemented? When the implementation scores[3] were examined, five experimental classrooms had unacceptably low scores, and were therefore dropped from analyses of

[3]A detailed discussion of implementation scores and their use in this study can be found in the original report: Johnston, J., Ettema, J., & Davidson, T., "An Evaluation of Freestyle: A Television Series to Reduce Sex Role Stereotypes." Ann Arbor: Institute for Social Research. Research Report Series. 1980.

treatment effects. This further reduces the total number of available T1-T2-T3 experimental students from 345 to 280. However, the resulting sample is remarkably similar in many respects to the initial T1 sample, as can be seen in Table 2. They are identical in gender composition and differ only slightly in their racial composition from the total initial sample of 687 students. Only in the area of grade level do these two groups differ more than a trivial amount. Therefore, except for analyses in which grade level is important, the reader can be reasonably comfortable about the internal validity of the findings. Data presented later comparing the T1 attitude and belief scores of Ann Arbor and Long Beach children are quite encouraging for the external validity of the findings as well.

An Analysis Strategy for Measuring Persistence

In the original study only two measurement points had to be considered in analyzing effects. As explained in Chapter Seven of the original report, the strategy was to use a form of multiple regression to predict the outcomes of interest using as predictors the variables of treatment group, sex, grade, and race. When this analysis indicated that there were effects attributable only to involvement in FREESTYLE, then another type of analysis was invoked to describe the size of the effect. The control group was eliminated and the experimental group was examined. The pre-post raw gain was divided by the pre-test standard deviation (SD) and judged for size against a yardstick which ranged from .20SD ("barely important") to .65SD ("an extremely large effect"). Extending that same model to the persistence data, the difference between the post (T2) and post-post (T3) score is divided by the pre-test SD. Since the interest is in comparing the effects of FREESTYLE

(the difference between the pre-test and post-test scores) with the effects of a non-FREESTYLE environment (the difference between post and post-post scores), this method assures that scores being compared will be expressed in a comparable metric.

An example may be useful here. Look at Figure 1 which describes attitudes toward girls engaging in mechanical activities. (As with all of these figures, the raw data can be found in the appendix.) The left hand hand portion of Figure 1 shows the results for Long Beach experimental children. (In the original report Long Beach children comprised the primary sample for analysis of effects of viewing supplemented by classroom discussion.) The numbers that lie on the pre-post lines are the pre-post shift for boys and girls each expressed as a proportion of the pre-test SD for the boys and girls combined. The FREESTYLE experience shifted girls' attitudes .48SD and boys' attitudes .53SD. The numbers between the boys and girls' data points at each point in time are the between-group differences expressed again in pre-test SD units. Thus, at the time of the pre-test, boys and girls' outlook were separated by .41SD -- a very sizeable difference. This gap narrowed a small amount by the time of the post-test to .35SD.

Now look at the Ann Arbor portion of the figure. The comparable data for the Ann Arbor experimental group is shown above the "pre" and "post" points on the horizontal axis. In addition, there are T3 data points above the "post-post" point. The figure shows that in Ann Arbor the girls' attitudes increased by .46SD during FREESTYLE and that they increased an additional .01SD in the nine month period subsequent to the intervention.

Presenting the data for both the Long Beach and Ann Arbor samples

permits comparisons between the two sites, both of the initial scores and the immediate effects. In general such comparisons will show that the Ann Arbor sample prior to FREESTYLE is very similar to Long Beach, and the pre-post effects are very similar in both sites. Thus, although persistence of effects was tested only in Ann Arbor, this cross-site comparison increases our confidence that the dynamics are representative of what might have happened in other sites as well.

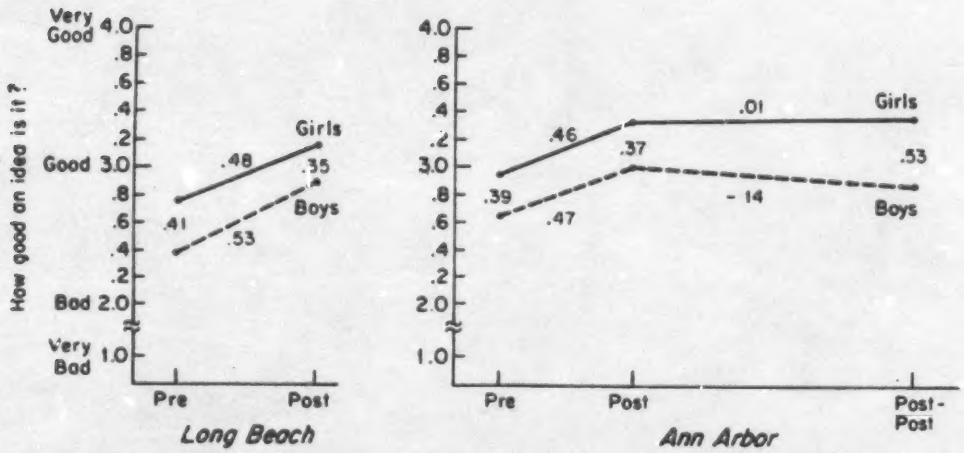
The Persistence of Effects

It was noted earlier that not all of the paper-and-pencil measures used in the other six sites were collected in Ann Arbor. In particular, most of the behavioral skill measures and the personal interest measures were not available. Fortunately, all of the content areas in which FREESTYLE had large effects were included. This includes measures of beliefs and attitudes regarding: girls in athletics, mechanics, and leadership roles as well as boys in helping and leadership roles. In additio , there are beliefs and attitudes about the gender composition of the adult labor force.

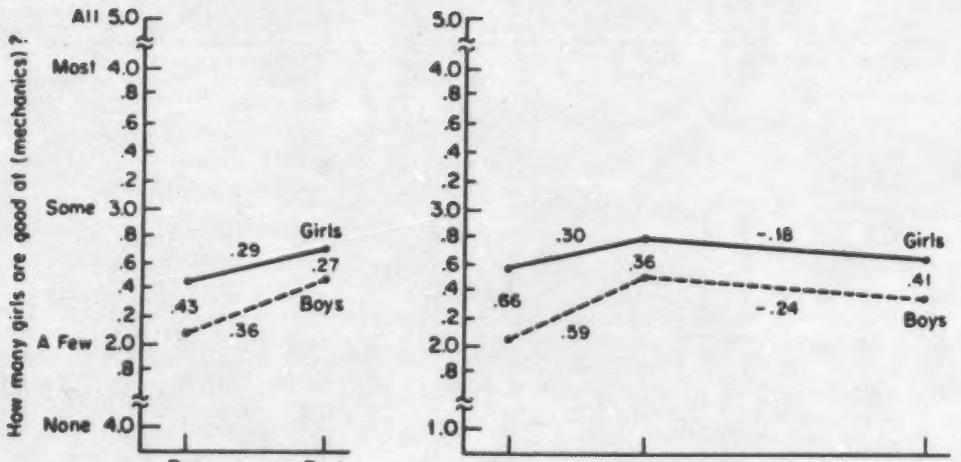
Girls in mechanical activities. The attitude measure for this concept is a composite index of several items which ask how good an idea it is for girls to do such things as work with an adult on a car motor, fix a broken bike, and build a radio or something else that runs on electricity. Figure 1 presents the data. FREESTYLE was very persuasive with both boys and girls, as shown by the increase in their post-test scores of .46SD and .47SD. Data in Chapter Seven of the original report show that this is an area in which there was no corresponding movement for the control group so we can conclude that it is entirely th FREESTYLE intervention that accounts for this shift in attitude. T

Figure 1

The Persistence of Attitudes and Beliefs
About Girls in Mechanical Activities



Attitudes Toward Girls in Mechanics



Beliefs About Girls in Mechanics

persistence data for the girl respondents indicate that there is no decay during the subsequent nine months. Their support for girls engaging in mechanical activities persists -- exactly what the designers of FREESTYLE hoped for. For boy respondents the effect decays somewhat (-.14SD). This decay corresponds to 30 percent of the initial effect (.14/.47). Another way of looking at it is to say that the net gain for boys from the FREESTYLE intervention is .33SD (.47SD - .14SD) over a 13 month period. Based on the criteria mentioned earlier, this would still be a sizeable effect to attribute to an intervention such as this. Table 3 presents for all of the outcomes both cross-time SD shifts and the decay as a percent of initial effect.

On the negative side it can be pointed out that the trend line for boys is having the effect of widening the gap between boys and girls' attitudes, and this could eventually play a role in inhibiting girls from expressing an interest in mechanical activities. The authors feel that a balanced judgment would be this. In the domain of girls and mechanics, FREESTYLE had impressively large initial effects and much of this effect persisted across time -- even over a period of nine months. However, enduring change may require additional exposure to the issues at several points in time. The repetition is not currently a part of the FREESTYLE package and perhaps should be.

Beliefs about whether girls are good at mechanical pursuits were strongly influenced by the original FREESTYLE intervention (bottom of Figure 1). Girls increased their estimate of the number of girls with mechanical skills by .30SD, and boys increased their estimate by a very large .59SD. For each of these groups there was a 40 percent decay over the nine months subsequent to FREESTYLE. This suggests that FREESTYLE

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Table 3

Cross-Time Shifts in Ann Arbor Experimental Persisters[1]

Outcome	Total		Girls				Boys			
	T1 Mean (a)	T1 SD (b)	T1 Mean (c)	T2-T1 b (d)	T3-T2 b (e)	e/d as pct (f)[a]	T1 Mean (g)	T2-T1 b (h)	T3-T2 b (i)	i/h as pct (j)[a]
Childhood Activities										
1. Att twd girls in mech	2.78	.78	2.94	.46	.01	+02	2.64	.47	-.14	-30
2. Belief about girls in mech	2.26	.78	2.53	.30	-.18	-60	2.03	.59	-.24	-41
3. Att twd girls in ath	3.01	.87	3.43	.21	-.07	-33	2.65	.51	-.12	-24
4. Belief about girls in ath	2.86	.81	3.20	.19	-.07	-37	2.57	.59	-.25	-42
5. Att twd boys helping	3.25	.61	3.25	.43	-.13	-30	3.26	.46	-.41	-89
6. Belief about boys helping	3.10	.79	2.81	.61	-.51	-84	3.36	.01	-.08	a
Behavioral Skills										
7. Att twd girls as ldrs	2.67	.80	3.21	.25	-.06	-24	2.20	.60	-.21	-35
8. Belief about girls as ldrs	3.40	.84	3.83	-.04	-.13	a	3.03	.35	-.35	-100
9. Att twd boys as ldrs	3.16	.70	2.84	.60	-.11	-18	3.44	-.03	-.01	a
10. Belief about boys as ldrs	3.45	.83	3.14	.33	-.36	-109	3.71	-.03	-.08	a
Adult Job Roles										
11. Belief about sex of those in fem jobs	3.78	.48	3.81	-.44	.04	-09[b]	3.75	-.25	.02	-08[b]
12. Att. twd more men in fem jobs	2.78	.61	2.80	.85	-.34	-40	2.76	.58	-.29	-50
13. Belief about sex of those in male jobs	2.22	.38	2.31	.32	.18	+56	2.15	.45	.13	+22
14. Att twd more women in male jobs	2.62	.66	2.87	.34	-.16	-47	2.40	.68	-.25	-37

[1]Children in high implementing classrooms who provided data at all three points in time. n=280.

[a]Initial effect too small to calculate decay as a percentage

[b]Scale is reversed; negative shift indicates a positive effect

*This column presents decay as a percent of initial effect.

and the accompanying classroom activities presented a view of girls that was larger than life. Perhaps the image of Chris successfully repairing the car in the show "Grease Monkey" was very vivid in children's minds at the time of the post-test. Subsequently, the children's experience suggested that Chris was too atypical. However, while the beliefs undergo a readjustment, girls and boys' perceptions are closer together at the time of the final data collection and this is a desirable effect.

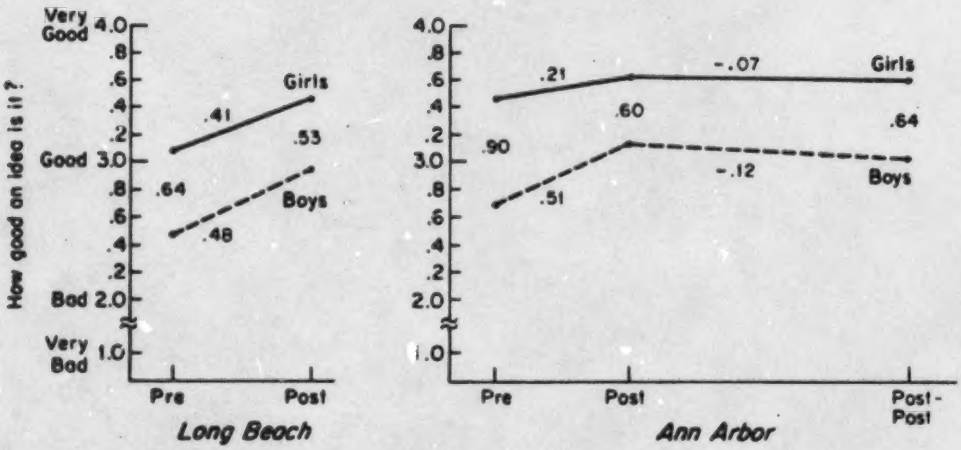
Girls in athletics. To measure the attitudes of 9-12 year olds towards girls in athletics, participants were asked how good an idea it is for girls to play either football or basketball on a team of both boys and girls. In Long Beach, FREESTYLE had a very strong effect on these attitudes, as is shown in the top of Figure 2. Long Beach girls were moved more than Ann Arbor girls, but in Long Beach the scores were much lower to begin with (3.08 for Long Beach girls vs. 3.43 for Ann Arbor girls). Both Long Beach and Ann Arbor girls at post-test time were very high in approval (3.47 for Long Beach and 3.61 for Ann Arbor). There was some decay of these attitudes -- a decline of one-third of the initial effect for girls and one-fourth of the initial effect for boys.

What about the beliefs about how many girls are good at football or basketball? FREESTYLE had convinced boys to think there were at least "some" girls capable in these endeavors. It was even more effective at this in Ann Arbor than Long Beach. This effect decayed considerably; the initial effect of .59SD for boys was followed by a -.25SD decline. This decline is 42 percent of the original effect.

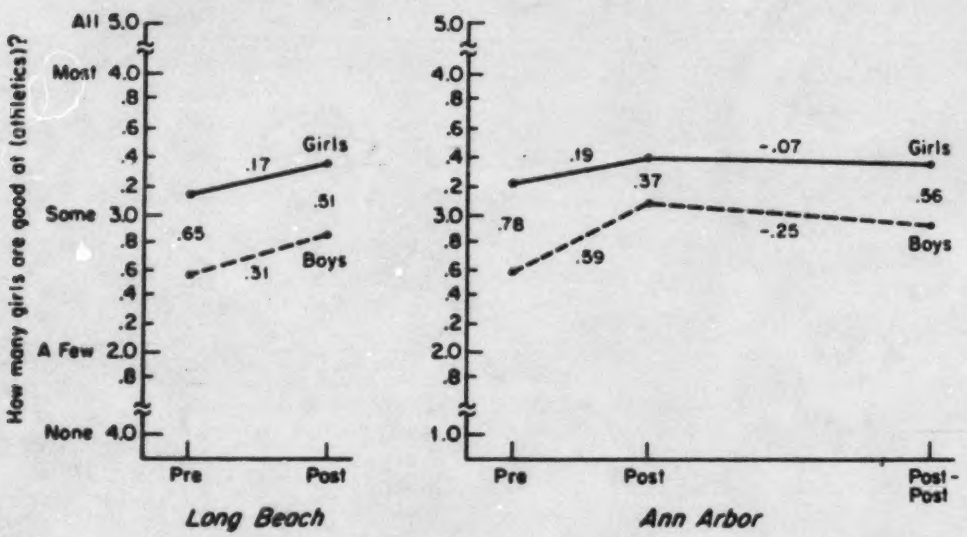
Boys in helping activities. In this area an example of almost total decay can be seen. At the time of the pre-test girls and boys were both supportive of boys doing such things as taking care of a

Figure 2

The Persistence of Attitudes and Beliefs
About Girls in Athletics



Attitudes Toward Girls in Athletics



Beliefs About Girls in Athletics

younger child, helping a child with math, helping older people, and helping adults fix meals for the family. Despite the high level of initial support, FREESTYLE enhanced these attitudes by .46SD for boys and .43SD for girls (Figure 3). But for the boys there was a decay of 89 percent of the original effect. However, given the high level of support to begin with (3.26 on a 4.0 scale), this decay may not have any implications for boys' behaviors.

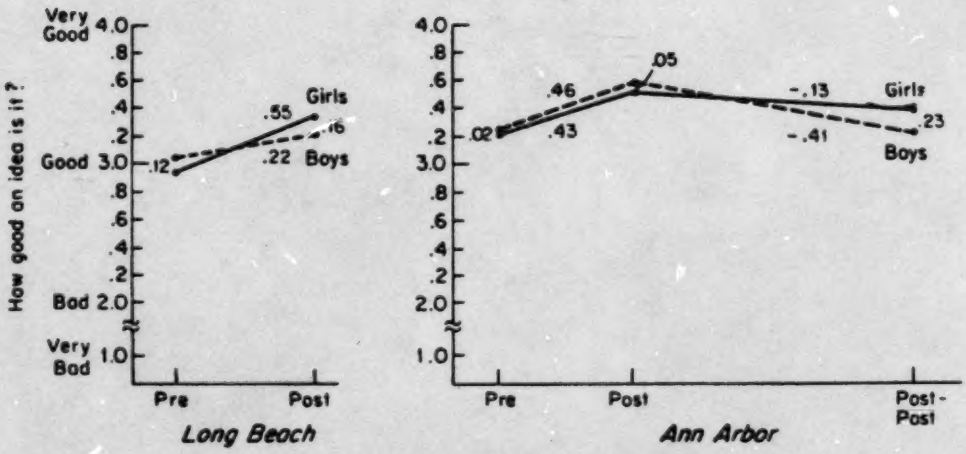
Beliefs about how many boys are good at these helping activities were very high initially for boys (3.36, corresponding to an estimate between "some" and "most" boys). FREESTYLE reinforced this estimate and it stayed fairly constant for boys at all three points in time. Girls estimated at the pre-test that many fewer boys were capable in this domain, but were strongly impressed by FREESTYLE and the classroom activities. Their post-test estimates were quite close to those of the boys. But in the period following FREESTYLE they reconsidered their estimates, with a decay of 84 percent of the original effect.

Thus far the level of decay has ranged quite broadly -- from no decay at all to 89 percent. But typically it was within the range of one-quarter to two-fifths of the original effect.

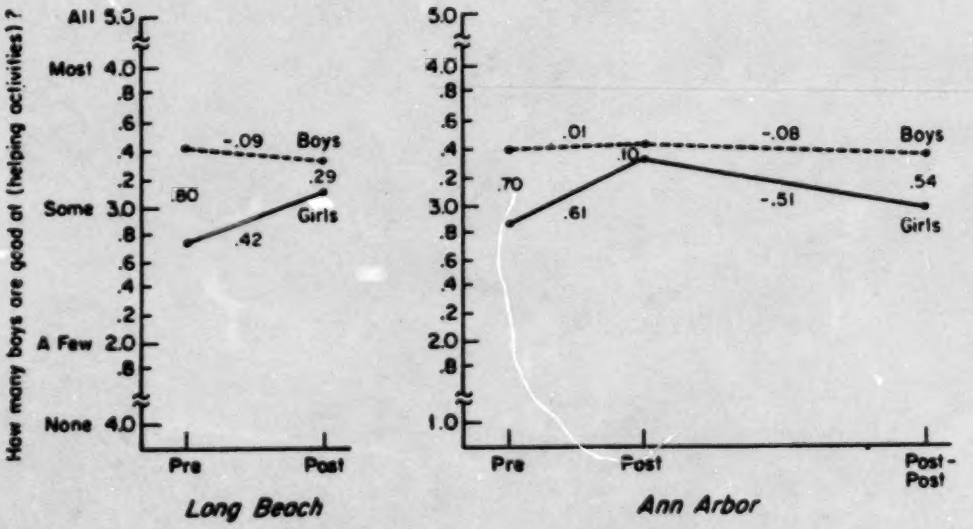
Girls and boys in leadership roles. In this domain, FREESTYLE wanted to make the idea of girls in leadership roles more acceptable. As Figure 4 shows girls were quite supportive of this before FREESTYLE. Nonetheless, the series was able to augment this supportive attitude by .25SD and this new level of support (3.41) persisted for the ensuing nine months. Figure 4 also shows the comparable data for attitudes toward boys being leaders. FREESTYLE was not trying to alter attitudes and beliefs in regard to boy leaders, but the data are informative.

Figure 3

The Persistence of Attitudes and Beliefs
About Boys in Helping Activities



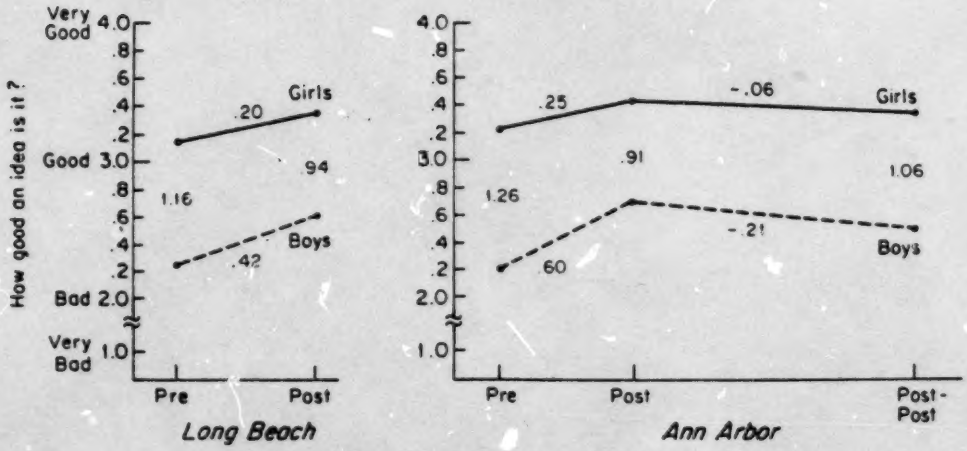
Attitudes Toward Boys in Helping Activities



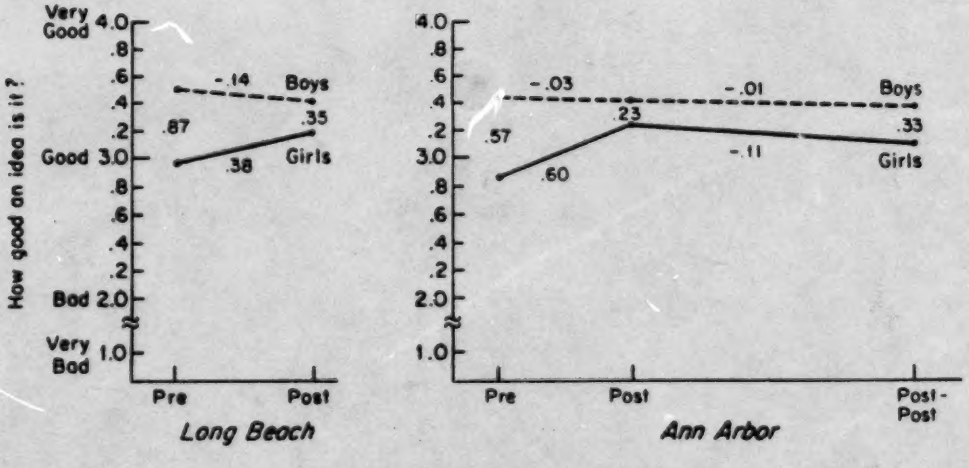
Beliefs About Boys in Helping Activities

Figure 4

The Persistence of Attitudes
Toward Boys and Girls in Leadership Roles



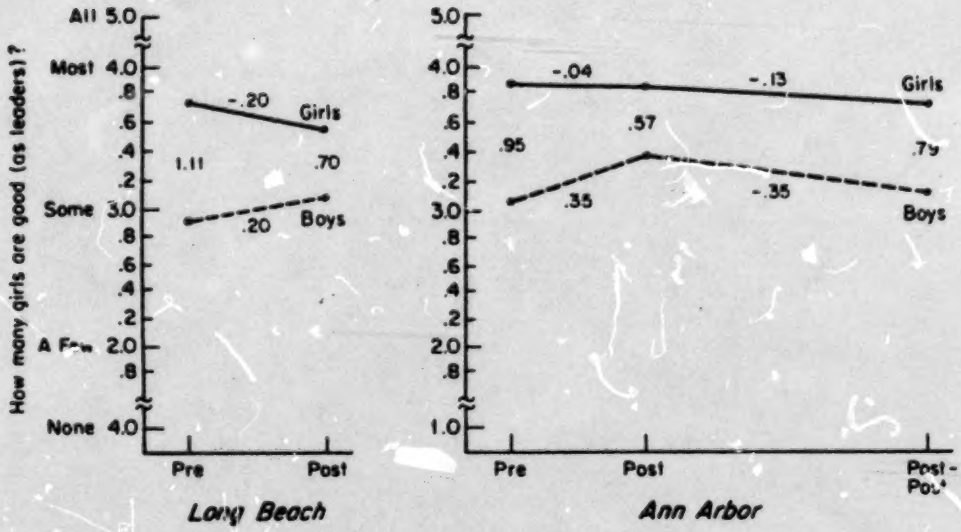
Attitudes Toward Girls as Leaders



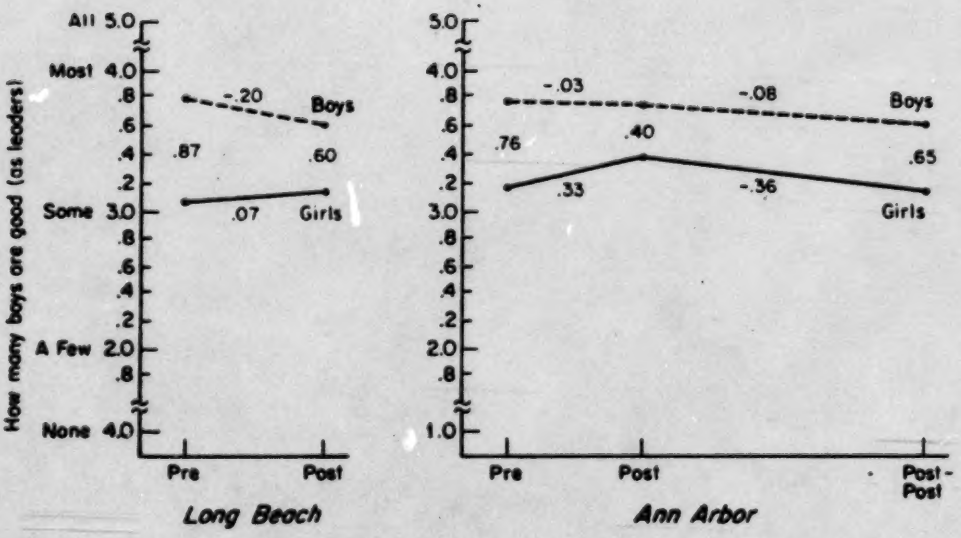
Attitudes Toward Boys as Leaders

Figure 5

The Persistence of Beliefs
About Boys and Girls in Leadership Roles



Beliefs About Girls as Leaders



Beliefs About Boys as Leaders

Male respondents started out very supportive of boy leaders (3.44) and their attitude shifted only slightly across the 13 months. So girls and boys reached the same level of high positive support for leaders of their own sex. But what about those of the opposite sex? After FREESTYLE the girls were much more supportive of boys as leaders (.60SD); in fact their attitudes toward boy leaders became almost as supportive as those toward girl leaders, and this attitude decayed only 18 percent after FREESTYLE. Boys, on the other hand, started out quite negative toward girl leaders (2.20, or a "bad" idea). After FREESTYLE their attitudes shifted .60SD also, but it was to a level much lower than girls' attitudes; furthermore the attitude decayed 35 percent.

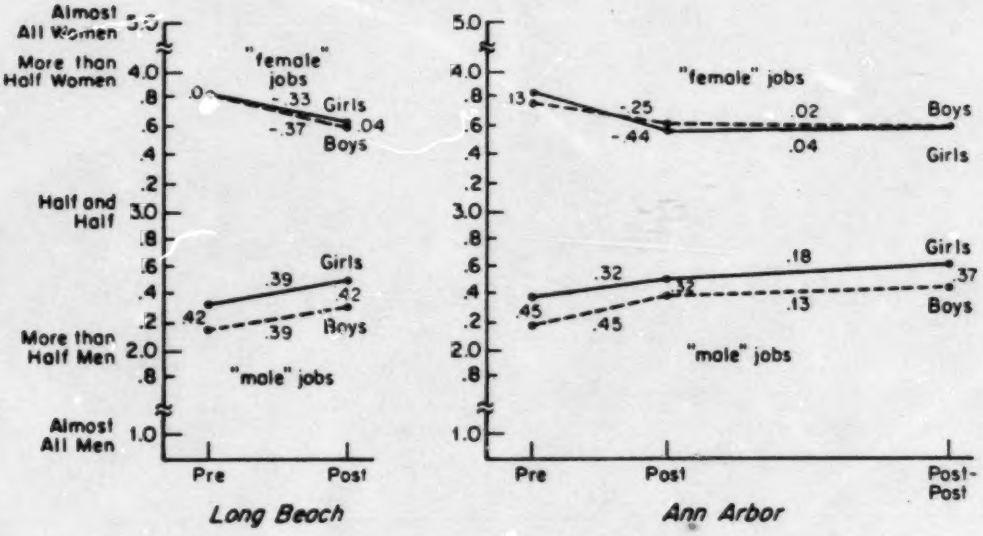
Two conclusions seem warranted from these data. FREESTYLE increased the general level of support for leaders of either sex, although the boys still had a long way to go to be convinced that girl leaders are a good thing. FREESTYLE accomplished the easier communication task of convincing girls that girl-leaders are a good idea, and influenced boys to a large extent, but not to the extent that sexism in peer leadership roles would likely be eliminated by the time of the next classroom election. The second conclusion is that these effects persisted to a remarkable degree. The level of decay for shifted attitudes in the domain of leadership ranges from 18 percent to 35 percent.

When it comes to beliefs about how many boys and girls are good at leadership tasks, each sex defends its own group. Figure 5 shows the data. Girls think "most" girls are good at being leaders and this belief is constant across all three points in time. Similarly for boys' beliefs about boy leaders. Before FREESTYLE each sex thought that only

"some" of the other sex were good leaders, but FREESTYLE increased this estimate by about one-third SD. But in the ensuing nine months all of this effect disappeared. So FREESTYLE did nothing in the area of beliefs about leadership that would increase the likelihood of more girls being chosen as leaders.

Figure 6

The Persistence of Beliefs
About the Sex of Those in Male and Female Jobs



Beliefs About the Sex of Those in Male and Female Jobs

NOTE: Scale on vertical axis is really two scales. As a result large effects (e.g. .44SD) appear in the figure to be unusually "flat."

Adult job roles. FREESTYLE hoped to change the child's image of the adult occupational world. In particular its designers wanted to change the stereotype that some jobs are only for women and others only for men. It was noted in the original report that FREESTYLE was partially successful in this regard. The children were asked to estimate the number of men and women in each of a list of jobs.

Estimates for the "male" jobs (mechanic, hotel manager, doctor, etc.) shifted dramatically across the FREESTYLE intervention period; the movement was from the "more than half are men" point on the scale toward the "half men, half women" point (see Figure 6). But it was discovered that the control group shifted as well so the effect could not be attributed uniquely to FREESTYLE.

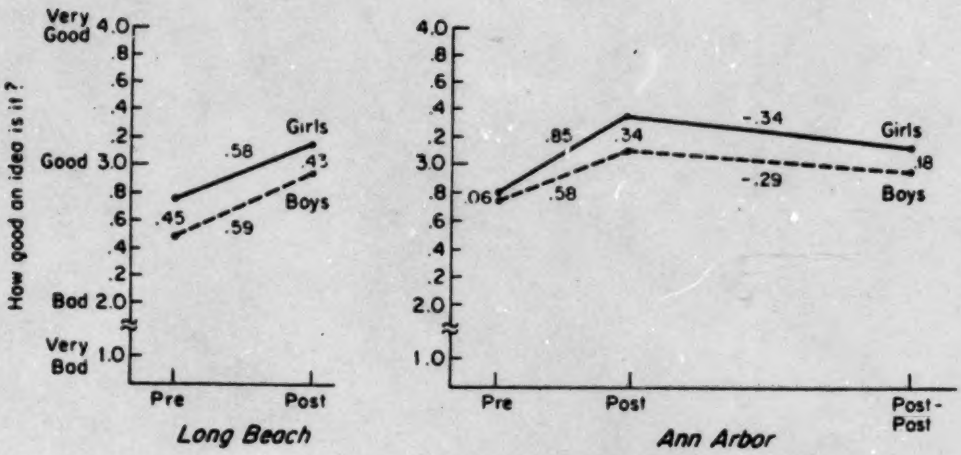
A similar picture of movement occurred for estimates of the composition of "female" jobs (nurse, secretary, etc.). But here the effect was unique to FREESTYLE -- the control group did not shift at all. Figure 6 shows that this latter effect persisted perfectly across the nine month period subsequent to FREESTYLE.

The lack of decay for these beliefs leads to the speculation that decay is much less likely if there is minimal exposure to the relevant concepts during the post-intervention period. Children would undoubtedly have had more opportunities to engage the concepts of girls in athletics and mechanical activities than they would men in the job roles of nurse or secretary.

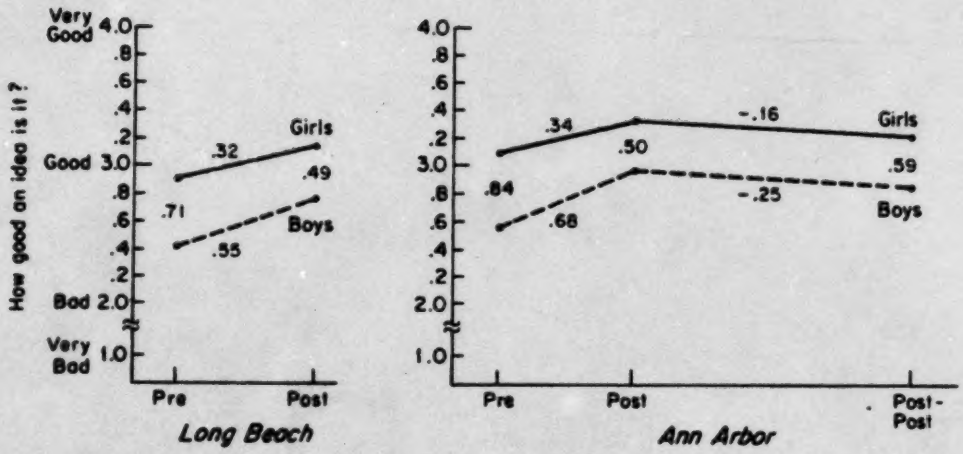
However, the attitudes toward how good an idea it is to increase the proportion of men in "female" jobs and women in "male" jobs showed quite a bit of decay. Figure 7 displays the data. FREESTYLE had an unusually large effect on attitudes toward more men entering "female" jobs -- .85SD for girl respondents and .58SD for boys. But the decay for these two groups was 40 and 50 percent respectively. In one sense this decay is quite large; but the net effect across all three points in time is still quite large for girls (.51SD) and modest for boys (.29SD). Although it should be noted that boys are the more important target for the intervention, their attitude after decay is still at the "good idea"

Figure 7

The Persistence of Attitudes
Toward Decreased Sex Typing of Adult Jobs



Attitudes Toward More Men in Female Jobs



Attitudes Toward More Women in Male Jobs

level. Attitudes toward more women entering "male" jobs were also influenced by FREESTYLE. Girls increased .34SD and boys .68SD. The decay for girls reduced their net effect below the threshold of importance. But the 37 percent decay for boys still left them with a very large net effect of .43SD.

Conclusion

The data on the persistence of effects show a most encouraging picture for effects secured through a combination of TV viewing and classroom activities. Recall that the initial large effects were secured by a 13-week intervention. Each week the 9-12 year olds were exposed to about 30 minutes of viewing and 1 1/2 - 2 hours of classroom discussion and activities. The post-intervention period without FREESTYLE was nine months long. Examining those outcome areas (attitudes and beliefs) for which there were large initial effects, these observations can be made. There are some areas for which there is no decay at all, and a few others for which there is almost total decay. But, the typical decay observed was in the range of 25-40 percent of the original effect. In most cases this is a small enough decay to leave a residual net effect that is quite large and educationally significant. It appears from the FREESTYLE experience that prosocial television for children on a timely topic, when reinforced by classroom activities, is capable of inducing large changes in the attitude and beliefs of children and that the method "innoculates" them fairly well for at least nine months against a return to pre-intervention orientations.

The examples of total decay point to the importance of careful selection of the topic and its treatment in the intervention package. The examples of partial decay argue strongly for incorporating "booster

shots" into program designs. Granted, it is a Herculean task just to create and "sell" a self-contained package with an intervention that has a discrete start and stop point. But the ultimate goal of such interventions is persistent change and this goal might be better served by a non-traditional design that cycles children through several interventions spaced over two or three school years. While this presents a challenge to program designers, it might be welcomed in school districts. In the original report on FREESTYLE's effects it was noted that over one-third of the teachers in the study wanted additional television shows in order to extend their classroom use of FREESTYLE. A sequel package of FREESTYLE materials might indeed be very welcome.

APPENDIX

Table A.1

Mean Scores Across Time for 14 FREESTYLE Indexes,
Long Beach and Ann Arbor Experimentals

		Long Beach T1-T2 Sample		Ann Arbor T1-T2-T3 Sample		
		T1	T2	T1	T2	T3
1. Attitude toward girls in mechanics (ATGMECH)	Boys	2.38/.88	2.84/.82	2.64/.80	3.01/.73	2.90/.70
	Girls	2.73/.80	3.14/.70	2.94/.74	3.30/.61	3.31/.57
	Total	2.54/.86	2.98/.78	2.78/.78	3.14/.69	3.09/.68
2. Beliefs about girls and mechanics (BFGMECH)	Boys	2.07/.84	2.44/.80	2.03/.71	2.48/.71	2.30/.66
	Girls	2.43/.81	2.67/.73	2.53/.78	2.75/.69	2.61/.68
	Total	2.23/.84	2.55/.78	2.26/.78	2.60/.71	2.44/.68
3. Attitudes toward girls in athletics (ATGATH)	Boys	2.47/.97	2.93/.87	2.65/.91	3.09/.71	2.99/.67
	Girls	3.08/.80	3.47/.65	3.43/.59	3.61/.46	3.55/.46
	Total	2.75/.95	3.18/.82	3.01/.87	3.33/.66	3.24/.65
4. Belief about girls in athletics (BFGATH)	Boys	2.55/.95	2.84/.79	2.57/.79	3.05/.75	2.85/.67
	Girls	3.15/.80	3.31/.64	3.20/.71	3.35/.56	3.30/.60
	Total	2.83/.93	3.06/.76	2.86/.81	3.19/.68	3.06/.68
5. Attitudes toward boys in helping activities (ATBNRI)	Boys	3.03/.68	3.22/.62	3.26/.60	3.54/.42	3.29/.56
	Girls	2.95/.69	3.33/.63	3.25/.62	3.51/.55	3.43/.54
	Total	3.00/.69	3.27/.62	3.25/.61	3.52/.48	3.36/.56
6. Beliefs about boys in helping activities (BFBNRI)	Boys	3.39/.84	3.31/.73	3.36/.72	3.37/.69	3.31/.63
	Girls	2.70/.70	3.06/.78	2.81/.77	3.29/.65	2.88/.60
	Total	3.07/.86	3.20/.76	3.10/.79	3.33/.67	3.11/.65
7. Attitudes toward girls as leaders (ATGLDR)	Boys	2.25/.72	2.58/.70	2.20/.69	2.68/.74	2.31/.62
	Girls	3.17/.55	3.33/.53	3.21/.54	3.41/.48	3.36/.47
	Total	2.67/.79	2.92/.73	2.67/.80	3.02/.73	2.90/.70
8. Beliefs about girls as leaders (BFGLD1@)	Boys	2.90/.85	3.05/.75	3.03/.84	3.32/.74	3.03/.85
	Girls	3.72/.67	3.57/.61	3.83/.59	3.80/.52	3.69/.53
	Total	3.27/.87	3.28/.74	3.40/.84	3.55/.69	3.33/.79
9. Attitudes toward boys as leaders (ATBLDR)	Boys	3.51/.46	3.42/.50	3.44/.43	3.42/.44	3.41/.43
	Girls	2.96/.67	3.20/.61	2.84/.80	3.26/.60	3.18/.60
	Total	3.27/.63	3.32/.56	3.16/.70	3.34/.52	3.30/.53
10. Beliefs about boys as leaders (BFBLD1@)	Boys	3.78/.75	3.61/.74	3.71/.78	3.69/.74	3.61/.71
	Girls	3.05/.76	3.11/.72	3.14/.79	3.39/.72	3.12/.69
	Total	3.44/.84	3.38/.77	3.43/.83	3.55/.75	3.38/.74
11. Beliefs about the sex of those in female jobs (SXJBW)	Boys	3.81/.54	3.62/.54	3.75/.51	3.63/.57	3.64/.44
	Girls	3.81/.54	3.64/.44	3.81/.44	3.60/.38	3.62/.31
	Total	3.81/.52	3.63/.50	3.78/.48	3.62/.49	3.63/.39
12. Attitude toward more men in female jobs (ATMJB3)	Boys	2.46/.70	2.87/.66	2.76/.58	3.12/.64	2.94/.64
	Girls	2.77/.64	3.17/.56	2.80/.63	3.33/.64	3.12/.53
	Total	2.60/.69	3.01/.63	2.78/.61	3.21/.65	3.02/.60
13. Beliefs about the sex of those in Male jobs (SXJBM)	Boys	2.15/.40	2.30/.45	2.17/.38	2.34/.44	2.39/.37
	Girls	2.31/.34	2.46/.35	2.34/.36	2.46/.36	2.53/.35
	Total	2.22/.38	2.37/.41	2.24/.38	2.40/.41	2.46/.37
14. Attitude toward more women in male jobs (ATWJB)	Boys	2.40/.65	2.76/.66	2.53/.68	2.99/.62	2.82/.55
	Girls	2.87/.58	3.08/.50	3.10/.52	3.33/.55	3.22/.49
	Total	2.62/.66	2.91/.62	2.79/.68	3.15/.61	3.00/.56

Note: Samples are comprised of respondents with complete data who were in classrooms where FREESTYLE was implemented at levels 3-6. Long Beach T1-T2 sample: Girls=433, Boys=513, Total=948. Ann Arbor T1-T2-T3 sample: Girls=126, Boys=150, Total=276.

Cell entries are the mean and standard deviation